

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P546935

Luminaire Tested: **FMR-24-4-LD4-2STD-50-UNV-80-84-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P546935  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-4-LD4-2STD-50-UNV-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

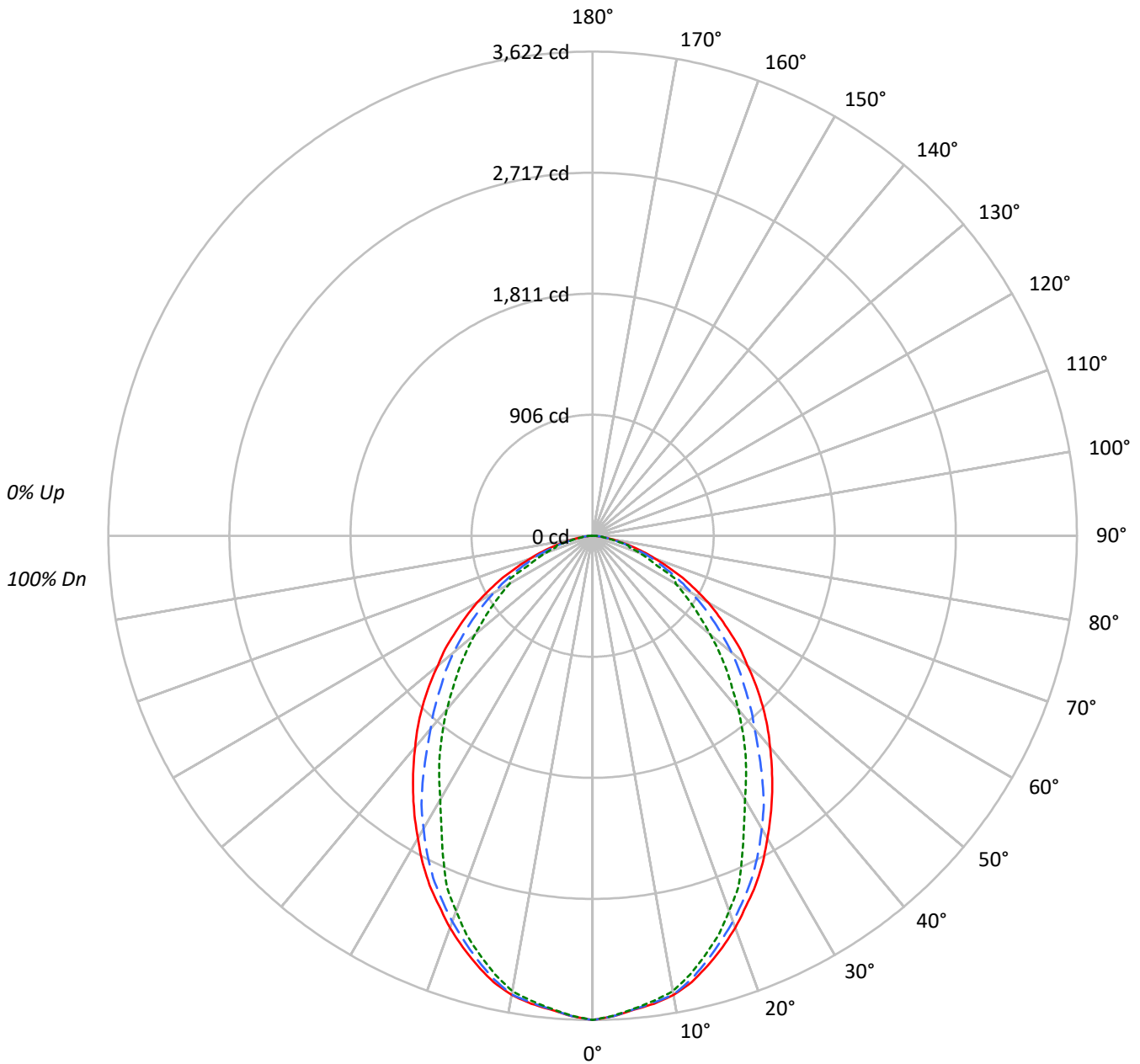
Lumens per Lamp: N/A  
Luminaire Lumens: 7111.0 lumens  
Efficiency: N/A  
Efficacy: 106.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4874	4874	4874
5°	4807	4802	4796
10°	4766	4760	4726
15°	4637	4591	4527
20°	4467	4395	4275
25°	4283	4190	3929
30°	4060	3930	3539
35°	3845	3632	3274
40°	3626	3310	2979
45°	3418	3060	2693
50°	3164	2840	2402
55°	2927	2574	2151
60°	2682	2299	1927
65°	2360	2013	1706
70°	1944	1763	1450
75°	1546	1350	1415
80°	1038	973	909
85°	647	777	905



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	337.2	4.7
10°-20°	925.4	13.0
20°-30°	1281.1	18.0
30°-40°	1366.0	19.2
40°-50°	1246.2	17.5
50°-60°	976.3	13.7
60°-70°	636.3	8.9
70°-80°	281.9	4.0
80°-90°	60.5	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2543.7	35.8
0°-40°	3909.7	55.0
0°-60°	6132.2	86.2
0°-90°	7111.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7111.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3622	3622	3622	3622	3622	
5°	3559	3555	3555	3551	3551	338
15°	3329	3329	3296	3262	3250	936
25°	2885	2868	2822	2722	2646	1325
35°	2341	2324	2211	2044	1993	1463
45°	1796	1759	1608	1474	1415	1384
55°	1248	1210	1097	967	917	1119
65°	741	699	632	645	536	730
75°	297	276	260	247	272	319
85°	42	46	50	54	59	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3622.2	3622.2	3622.2	3622.2	3622.2
2.5°	3597.1	3597.1	3597.1	3592.9	3592.9
5°	3559.4	3555.2	3555.2	3551.1	3551.1
7.5°	3530.1	3525.9	3521.7	3517.6	3509.2
10°	3488.2	3488.2	3484.1	3463.1	3458.9
12.5°	3421.2	3417.1	3400.3	3371.0	3362.6
15°	3329.1	3329.1	3295.6	3262.1	3249.6
17.5°	3228.6	3224.4	3182.6	3149.1	3132.3
20°	3119.7	3111.4	3069.5	3015.1	2985.7
22.5°	2998.3	2998.3	2948.0	2876.9	2847.5
25°	2885.2	2868.5	2822.4	2721.9	2646.5
27.5°	2755.4	2730.3	2680.0	2537.7	2449.7
30°	2613.0	2600.5	2529.3	2345.0	2278.0
32.5°	2479.0	2458.1	2382.7	2190.1	2135.7
35°	2340.9	2324.1	2211.0	2043.5	1993.3
37.5°	2202.7	2181.7	2039.3	1905.3	1842.5
40°	2064.5	2039.3	1884.4	1763.0	1696.0
42.5°	1934.7	1901.2	1750.4	1620.6	1545.2
45°	1796.5	1758.8	1608.0	1474.0	1415.4
47.5°	1658.3	1624.8	1486.6	1348.4	1281.4
50°	1511.7	1482.4	1356.8	1218.6	1147.4
52.5°	1390.3	1344.2	1222.8	1084.6	1026.0
55°	1247.9	1210.2	1097.1	967.3	917.1
57.5°	1118.1	1080.4	975.7	854.3	812.4
60°	996.6	942.2	854.3	749.6	716.1
62.5°	862.6	820.8	745.4	657.4	699.3
65°	741.2	699.3	632.3	644.9	536.0
67.5°	607.2	586.3	527.6	469.0	452.3
70°	494.1	469.0	448.1	385.3	368.5
72.5°	393.6	368.5	339.2	305.7	293.1
75°	297.3	276.4	259.6	247.1	272.2
77.5°	205.2	196.8	184.3	171.7	167.5
80°	134.0	129.8	125.6	121.4	117.3
82.5°	79.6	79.6	79.6	79.6	79.6
85°	41.9	46.1	50.3	54.4	58.6
87.5°	25.1	25.1	29.3	33.5	37.7
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)